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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,637	10/24/2003	Michael Liebler-Ranzus	MOH-P010111	8633

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EXAMINER

AWAI, ALEXANDRA F

ART UNIT	PAPER NUMBER
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3663

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,637

Applicant(s)

LIEBLER-RANZUS, MICHAEL

Examiner

Alexandra Awai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/15/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>9/15/2005</u> . | 6) <input type="checkbox"/> Other: _____ |



DETAILED ACTION

Drawings

1. The drawings are objected to because it is not clear whether the gills (5) are in the same plane as the projection (9), with openings that are not horizontally level, or are in a completely different spatial plane. Also, Fig. 1 seems to show that the projection and is not formed geodetically below a gill, while Fig. 2 apparently does. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7043486 in view of EP 0557085, and DeMarlo *et al* (U.S. 4,692,302).

JP 7043486 teaches the use of gills and projections (Fig. 5), and it is a matter of design choice, with many examples in the prior art, for the projections of various types to be formed below one another on the strips forming the lattice or perimeter of fuel assembly spacer grids. EP 0557085 provides a concrete example of using relatively more extensive projections to protect relatively less extensive projections, which is truly a commonsense modification that might be easily conceived by those skilled in the art. JP 7043486 also teaches deflector lugs (Fig. 9, articles 13 and 25), which are commonly used in the art to facilitate the contact of coolant and fuel assembly components. As the "lower edge" of the projection might be broadly construed, the deflectors shown in Fig. 2b of JP 7043486, which appear to be integrally formed on the perimeter strip and extend above a projecting surface, read on the claim. DeMarlo *et al* clearly show a section of an inner web or strip extending into a projection of the perimeter strip it intersects (Figs. 6 and 7), an arguably obvious feature given that interior strips often physically intersect the perimeter strips of spacer grids, and that those perimeter strips almost always possess protective projections. It would have been obvious to modify the device of JP 7043486

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with the well-known features of the other prior art references in order to achieve the objects of the present invention.

3. Claims ~~1-4~~⁵ are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7043486, EP 0557085, and DeMarlo *et al* (U.S. 4,692,302) as applied to claims 1-4 above, and further in view of Kang *et al* (U.S. 6,744,843).

The primary references do not explicitly teach that the deflector tags may be in contact with the interior strips of the grid as a means of support, but Kang *et al* shows that upwardly extending tabs may be nearly completely intersected by these components. It would have been obvious to those skilled in the art to modify the deflector lugs of JP 7043486 to be in contact with this same lateral extension of the interior webs or strips to reinforce said deflector lugs and improve the stability of the spacer grid.

4. Claims ~~1-4 and 6~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 7043486, EP 0557085 and DeMarlo *et al* (U.S. 4,692,302) as applied to claims 1-4 above, and further in view of JP 02002980.

The primary references do not teach that the projections themselves have slots, but JP 02002980 shows the utilization of slits (12a) for the intersection of the interior webs or strips, which is a commonplace mechanical feature. It would have been *prima facie* obvious, if the projections were placed at the intersection points, to have fashioned slits in the projections in order to secure the intersecting interior metal strips of the grid with the perimeter strip having the projections.

Conclusion

5. The previously admitted prior art, as well as that made of record and not relied upon is considered pertinent to applicant's disclosure.


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexandra Awai whose telephone number is (517) 272-3079.

The examiner can normally be reached on 8:30-5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Keith can be reached on (571) 272-6878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AA
September 27, 2005


JACK KEITH
PRIMARY EXAMINER
S/E 3663